

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing
(day/month/year)

24.05.2004

Applicant's or agent's file reference
P200200975 WO

IMPORTANT NOTIFICATION

International application No.
PCT/EP 03/09034

International filing date (day/month/year)
14.08.2003

Priority date (day/month/year)
06.09.2002

Applicant

TELEFONAKTIEBOLAGET L M ERICSSON (PUBL) ET AL.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



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PATENT COOPERATION TREATY



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P200200975 WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/09034	International filing date (<i>day/month/year</i>) 14.08.2003	Priority date (<i>day/month/year</i>) 06.09.2002
International Patent Classification (IPC) or both national classification and IPC H03B5/36, H03B5/36		
Applicant TELEFONAKTIEBOLAGET L M ERICSSON (PUBL) ET AL.		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>
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<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>
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Date of submission of the demand 27.02.2004	Date of completion of this report 24.05.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Beasley-Suffolk, D Telephone No. +31 70 340-4251 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/09034**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-19 as originally filed

Claims, Numbers

1-18 as originally filed

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/09034**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-18
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-18
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1: EP-A-0 767 532 (SONY CORP) 9 April 1997 (1997-04-09)
D2: EP-A-1 215 812 (NOKIA CORP) 19 June 2002 (2002-06-19)
D3: EP-A-0 335 493 (TOKYO SHIBAURA ELECTRIC CO) 4 October 1989 (1989-10-04)

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 to 18 does not involve an inventive step in the sense of Article 33(3) PCT.

2. Using the wording of present claim 1, D1 figure 2 describes:

A balanced crystal oscillator comprising:

a piezoelectric element (9), a first oscillator subcircuit incorporating a transistor (81); and a second oscillator subcircuit incorporating a transistor (82); wherein the transistors each have different types of transistor terminals, and wherein the oscillator subcircuits are configured to have at least three interconnections; each interconnection comprises a pair of like type transistor terminals; wherein a first of said interconnections comprises a connection to a ground reference (via 90); a second of said interconnections is via a first resonator element (9); a third of said interconnections is via a second resonator element (87); and first and second circuits are arranged to interact by means of said first and second resonator elements to form a balanced oscillator signal.

Claim 1 therefore differs from D1 in that it includes a piezoelectric element as a resonator.

The use of a particular type of resonator in an oscillator is simply a design choice, in this case between a piezoelectric resonator and a surface acoustic wave resonator, which the skilled person would make, according to the circumstances, without the exercise of any inventive skill during the design of an oscillator according to D1. Therefore the subject-matter of claim 1 does not involve an inventive step (Article 33(3) PCT.

3. The additional features of dependent claims 2 to 10 relate to construction details of an oscillator designed according to the principle described in claim 1. These features are normal design features of oscillators which the skilled person would incorporate as a matter of course while implementing the design of claim 1. Many of the features are known explicitly from D1, especially figure 3. Therefore the subject-matter contained in these claims is not inventive.

4. The subject-matter of claims 11 to 14 relates to an alternative implementation of the oscillator of claim 1, in which FETs are used rather than BJTs. In many cases, the use of either of these types of transistor is purely optional, the choice between types being made solely in accordance with circumstances and at the discretion of the skilled person, without the exercise of any inventive skill. Additionally, it is clear that in this case the choice of either bipolar junction or field effect transistors has no effect on the overall oscillator, and does not contribute to solving the problem posed. Therefore the subject-matter of these claims is not inventive.

5. The subject-matter of claim 15, including a filter to suppress unwanted modes in the oscillator, is well known in the art and therefore not inventive.

6. The subject-matter of claims 16 to 18 relates simply to the inclusion of an oscillator according to the above claims in various systems. Such implementation involves no additional inventive effort.

7. The prior art documents D1, D2 and D3 have not been included or discussed in the description, as required by Rule 5.1(1)(ii) PCT.